AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in this application.

1. (Currently amended) A genetically modified ~~cell or~~ non-human organism ~~comprising said cell~~, wherein the genetic modification comprises the insertion of a reporter molecule-encoding sequence into an allele of the endogenous *Blimp (PRDM-1)* gene thereby creating a modified *Blimp* allele, and wherein expression of a polypeptide comprising the reporter molecule from the modified *Blimp* allele is under the control of endogenous *Blimp* regulatory elements.

2. (Currently amended) The ~~cell or~~ organism of claim 1, wherein the modified *Blimp* allele encodes an mRNA transcript comprising a Blimp coding sequence and a reporter molecule coding sequence.

3. (Currently amended) The ~~cell or~~ organism of claim 1, wherein the reporter molecule coding sequence is inserted within an intron of a *Blimp* allele.

4. (Currently amended) The ~~cell or non-human~~ organism of claim 1, wherein the modified *Blimp* allele is present in homozygous form.

5. (Currently amended) The ~~cell or non-human~~ organism of claim 1, wherein the modified *Blimp* allele is present in heterozygous form.

6-7. (Canceled)

8. (Currently amended) The ~~cell or non-human~~ organism of claim 1, comprising ~~cells or~~ genetic material derived from [[any]] an organism ~~such as~~ selected from the group consisting of man, non-human primates, livestock, companion or laboratory test organisms, reptilian, and [[or]] amphibian species.

9. (Currently amended) The ~~cell or~~ organism of claim 8, derived from a laboratory test animal ~~such as~~ selected from the group consisting of a rodent ~~(including mice)~~, guinea pig, pig, duck, rabbit [[or]]and sheep.

10-12. (Canceled)

13. (Currently amended) The cell ~~or organism~~ of claim [[12]]50, wherein the cell is a cell of the lymphocyte lineage selected from a B-cell and a T-cell.

14. (Currently amended) The cell ~~or organism~~ of claim 13, wherein the B-cells are antibody secreting cells (ASC).

15. (Original) The cell of claim 14, which is a substantially purified population of ASC.

16. (Currently amended) The cell ~~or organism~~ of claim 13, wherein the T-cells are selected from $CD4^+$ T-cells [[and]]or $CD8^+$ T-cells.

17-18. (Canceled)

19. (Currently amended) The cell ~~or organism of any one of claims 1 to 3~~ of claim 50, wherein the reporter molecule is a fluorescent or light emitting reporter molecule.

20. (Currently amended) A method for ~~phenotyping and/or monitoring a cell of the haematopoietic system~~ identifying antibody secreting cells, comprising ~~monitoring~~ providing a genetically modified haematopoietic cell or non-human animal comprising said cell, wherein the genetic modification comprises the insertion of a reporter molecule-encoding sequence into an allele of the endogenous *Blimp (PRDM-1)* gene thereby creating a modified *Blimp* allele, and expression of a polypeptide comprising the reporter molecule from the modified *Blimp* allele is under the control of endogenous *Blimp* regulatory elements, detecting the reporter activity from said genetically modified cell or non-human animal, and ~~determining cellular phenotype and/or commitment of the cell to terminally differentiate~~ identifying antibody secreting cells based on

~~detecting~~ the reporter activity.

21. (Canceled)

22. (Previously presented) The method of claim 20, wherein detecting the reporter activity is achieved by cytometric analysis of a fluorescent or light emitting reporter molecule.

23. (Currently amended) The method of claim 20, further comprising isolating or selecting antibody secreting cells which exhibit reporter activity or changes in reporter activity or level from among cells which do not exhibit reporter activity.

24. (Original) The method of claim 23, wherein the isolation of reporter-active cells is by flow cytometry, laser scanning cytometry, chromatography and/or other equivalent procedure.

25. (Original) The method of claim 23, further comprising selecting reporter-active cells using further selection markers.

26-29. (Canceled)

30. (Currently amended) A method for *in vitro* or *in vivo* screening for agonists or antagonists of terminal differentiation in haematopoietic cells, comprising exposing one or more agents to a genetically modified cell or non-human animal comprising said cell, wherein the genetic modification comprises the insertion of a reporter molecule-encoding sequence into an allele of the endogenous *Blimp (PRDM-1)* gene thereby creating a modified *Blimp* allele, and expression of a polypeptide comprising the reporter molecule from the modified *Blimp* allele is under the control of endogenous *Blimp* regulatory elements; and testing the cell or organism for the presence or a change in the level of the reporter molecule, wherein the presence or change in the level of the reporter molecule[[which]] is indicative of the ability of the one or more agents to act as agonists or antagonists of terminal differentiation.

31. (Currently amended) The method of claim 20[[, 28]] or 30, wherein said modified *Blimp*

allele encodes an mRNA transcript comprising a Blimp coding sequence and a reporter molecule coding sequence.

32. (Original) The method of claim 31, wherein the reporter molecule coding sequence is inserted within an intron of a *Blimp* allele.

33. (Previously presented) The cell or non-human organism of claim 31, wherein the modified *Blimp* allele is present in homozygous form.

34. (Previously presented) The method of claim 31, wherein the modified *Blimp* allele is present in heterozygous form.

35-36. (Canceled)

37. (Previously presented) The method of claim 31 wherein the cells, the modified Blimp allele or the reporter gene are derived from any organism such as man, non-human primates, livestock, companion or laboratory test organisms, reptilian or amphibian species.

38. (Currently amended) The method of claim 37, wherein the laboratory test organism is selected from the group consisting of a rodent ~~(including mice)~~, guinea pig, pig, duck, rabbit and sheep.

39. (Currently amended) The method of claim 31, wherein the cell is a cancerous or non-cancerous ~~haematopoietic or~~ embryonic cell.

40. (Canceled)

41. (Currently amended) The method of claim [[40]]30, wherein the ~~lymphocytic~~cell is selected from a B-cell [[and]]or a T-cell.

42. (Original) The method of claim 41, wherein the B-cells are ASC.

43. (Original) The method of claim 41, wherein the T-cells are selected from $CD4^+$ T-cells and $CD8^+$ T-cells.

44. (Previously presented) A targeting vector comprising a modified *Blimp (PRDM-1)* gene characterized by the insertion of a reporter molecule-encoding sequence into a native *Blimp (PRDM-1)* gene, wherein expression of a polypeptide comprising the reporter molecule from the modified *Blimp* gene is under the control of endogenous *Blimp* regulatory elements.

45. (Previously presented) The targeting vector of claim 44, wherein the modified *Blimp* gene encodes an mRNA transcript comprising a Blimp coding sequence and a reporter molecule coding sequence.

46. (Original) The targeting vector of claim 45, wherein the reporter molecule coding sequence is inserted within an intron of a *Blimp* allele.

47. (Original) The targeting vector of claim 44, wherein the reporter molecule is a GFP.

48. (New) The organism of claim 1, provided in the form of embryos.

49. (New) The organism of claim 1, wherein the reporter molecule is a fluorescent or light emitting reporter molecule.

50. (New) A genetically modified cell, wherein the genetic modification comprises the insertion of a reporter molecule-encoding sequence into an allele of the endogenous *Blimp (PRDM-1)* gene thereby creating a modified *Blimp* allele, and wherein expression of a polypeptide comprising the reporter molecule from the modified *Blimp* allele is under the control of endogenous *Blimp* regulatory elements.

51. (New) The cell of claim 50, wherein said cell is in the form of gametes or embryonic stem cells.

52. (New) The cell of claim 50, wherein the modified *Blimp* allele encodes an mRNA transcript comprising a Blimp coding sequence and a reporter molecule coding sequence.

53. (New) The cell of claim 50, wherein the reporter molecule coding sequence is inserted within an intron of a *Blimp* allele.

54. (New) The cell of claim 50, wherein the modified *Blimp* allele is present in homozygous form.

55. (New) The cell of claim 50, wherein the modified *Blimp* allele is present in heterozygous form.